

February 2022

Using data and evidence for decision making in cities

Global Future Cities Programme South Africa

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Data as a tool for...



Improved targeting and allocation of resources



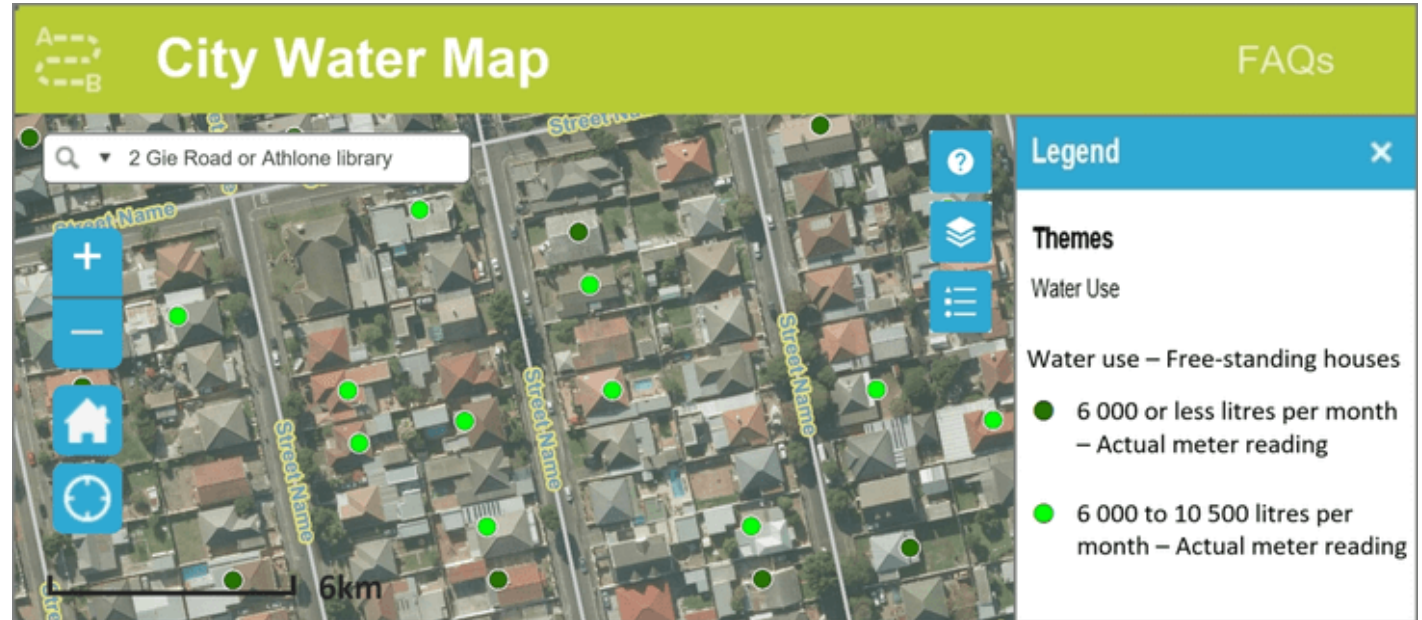
Forecasting future demands for public services



Evaluating the impact of policies

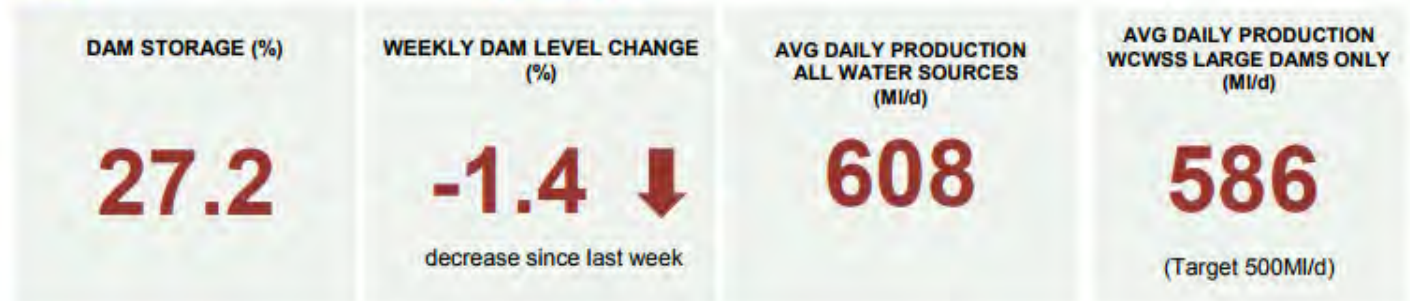
Water efficiency during Cape Town's drought

- **Digitisation** of water data previously stored in unusable format.
- Data on water usage made **publicly available** for behavior change.
- **Frequent updates** on water usage, dam levels and pipe conditions for efficient city response.



City of Cape Town: Water Dashboard

22 January 2018



Forecasting urban expansion



Source: http://atlasofurbanexpansion.org/cities/view/Cebu_City

Where and how is urban expansion taking place in Cebu?

- Use of satellite imagery and analysis to show infill (pink), extension (yellow), leapfrog (red) and inclusion (green)
- Past trends to forecast future infrastructure and service delivery

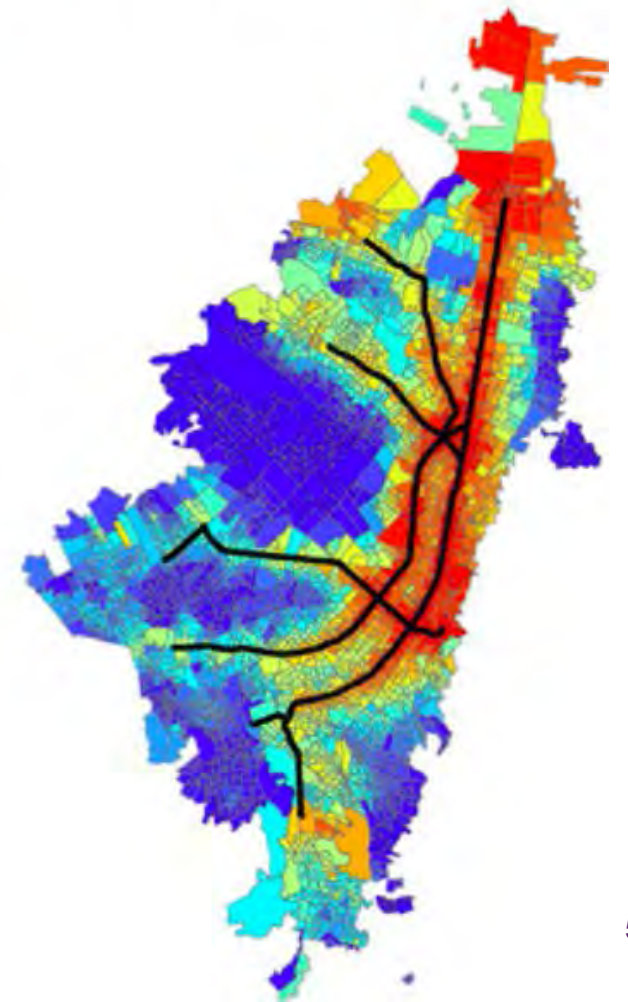
Evaluating impact of Bogota's TransMilenio system

- Combined **national census data** and **representative city data** on commute times, land markets, and residential and employment locations.
- **Blue = limited change, red = high change** in locational decisions for firms and residents.
- BRT has resulted in **increased employment and city in-migration**; but zoning restrictions have inhibited full benefits.

Change in Resident CMA



Change in Firm CMA



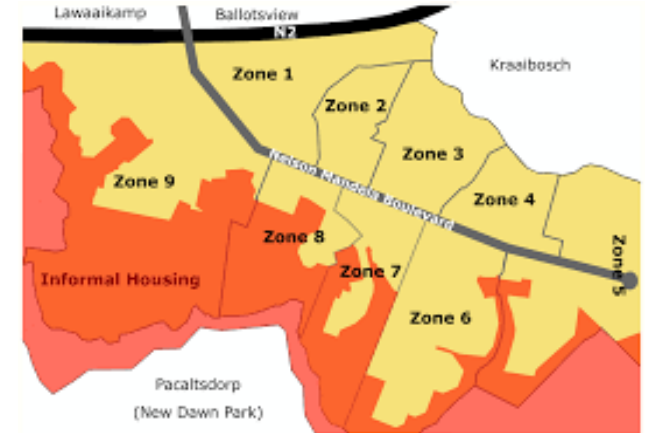
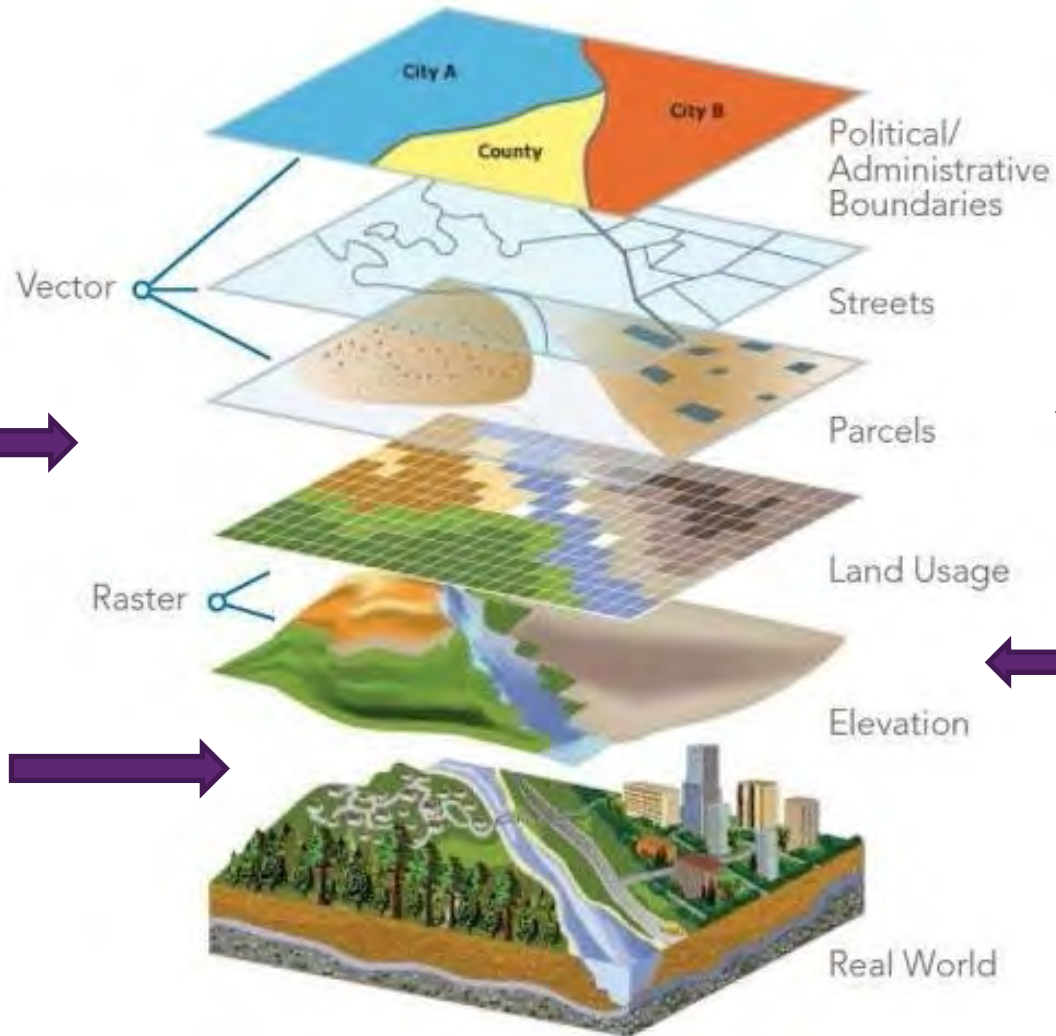
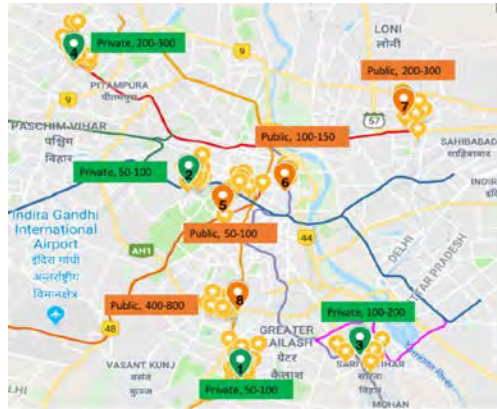
Brings economic value

- 90% of all major transportation projects **overrun on cost**.
- **Costs** are **systematically underestimated**: on average, actual costs are 28% more than initial projections.
- **Demand** for infrastructure is **systematically overstated**, by 50% on average.

Source: Siemiatycki, M (2018)



Improves integrated planning



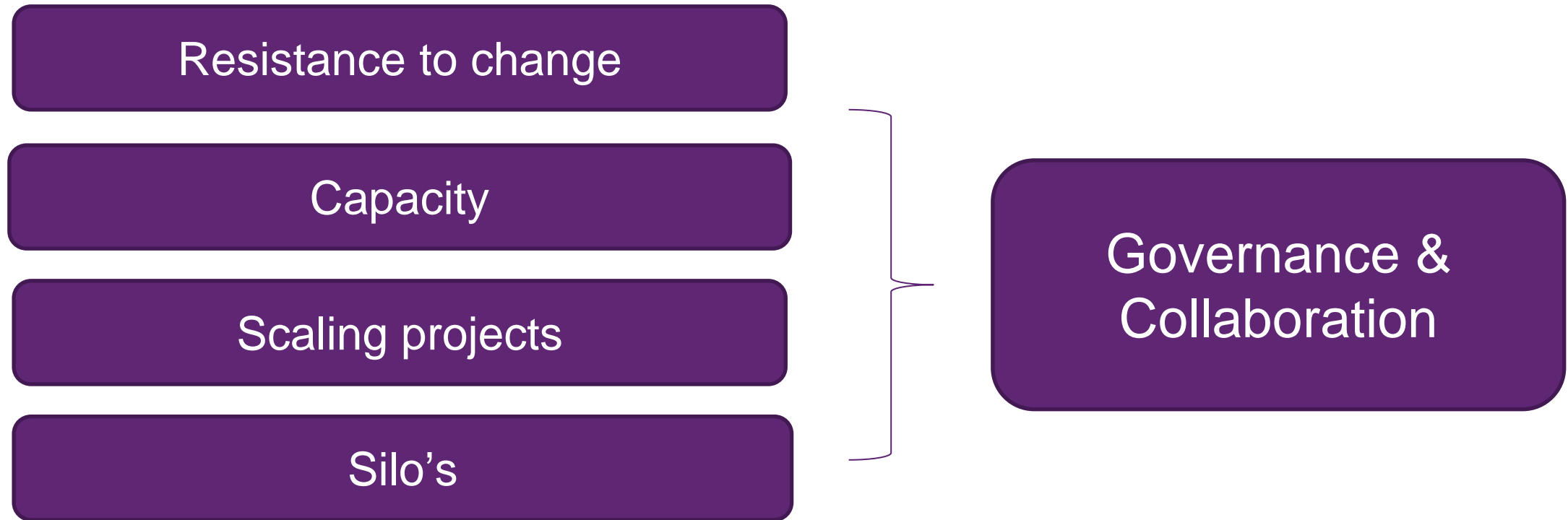
Facilitates inclusion



Byrne et al. (2018)

- **Slum dwellers international - Citizen generated data**
 - “Making the invisible visible”
 - Network of **community organisations** in 33 countries; profiled over 7700 slums in 224 cities.
 - **Standardised** settlement profiles, surveys and mapping undertaken by residents → **digitised** and **open source**.
 - Data **owned by communities** and control what, to whom and when information is made available.
-
- **World Bank survey of the informal sector in Kampala**
 - **Randomised** survey of 2243 informal businesses
 - Included as **module** of National Manpower Survey (UBOS)
 - Skills, remuneration, training and working conditions.

Challenges – Governance and Collaboration



Change management

- Universal data standards and data sharing agreements
- HR policies - skills and capacity require a shift across the organization – beyond technical experts
- Integrated systems, user-centered design
- Start small, build up – experiment and adapt.

- Understand individual behaviour
- Strong leadership

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